

CLAIMS

1. Protective composition for the strands of cables for permanent structures, characterized in that it is obtained by slow in situ polymerization, after injection at ambient temperature into a sheath surrounding the strands, of
5 monomeric or pre-polymeric reagents in the presence of a swelling solvent.

2. Composition according to claim 1, characterized in that the monomeric reagents are:

- a) identical or different vinyl monomers, polymerizable by free radical means, or
- 5 b) bi- or tri-functional compounds of two different types reacting together to give bi- or tri-dimensional polymers, or
- c) mixtures of a) and b).

3. Composition according to claim 2, characterized in that the bi- or tri-functional compounds are polyols and polyisocyanates giving polyurethanes.

4. Composition according to claim 2, characterized in that the bi- or tri-functional compounds are bi- or tri-

functional epoxy compounds and diamines or triamines giving cross-linked epoxy resins.

5. Composition according to any one of claims 1 to 4, characterized in that it moreover contains an anti-corrosion agent.

6. Composition according to claim 5, characterized in that the anti-corrosion agent is an inorganic compound of the phosphate type or an organic compound of the polyaniline type.

7. Composition according to claim 5, characterized in that in the case of epoxy resins, the anti-corrosion agent is constituted by an excess of diamine or triamine such that the final composition has a $\text{pH} \geq 12$.

8. Composition according to any one of claims 1 to 7, characterized in that the solvent is selected from benzoic acid esters, phthalic acid esters or saturated or unsaturated aliphatic acid esters having in the aliphatic chain at least 10 carbon atoms, aromatic or polycyclic hydrocarbons, terpenes and phenolic ethers if desired lightly polymerized.

9. Composition according to any one of claims 1 to 8, characterized in that it contains 10 to 90% by weight of polymer and 90 to 10% by weight of swelling solvent, and preferably 15 to 55% by weight of polymer.

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10. Composition according to claim 2, characterized in that it contains:

- . Bisphenol A: 30% by weight
- . Cresylglycidyl ether: 2% by weight
- 5 . Blocked isocyanate prepolymer 20% by weight
- . Aliphatic amines + aliphatic amine prepolymer: 11% by weight
- 10 . Neutral and non-reactive aromatic petroleum resins and/or modified hydroxylated petroleum resins (swelling solvent): 37% by weight

11. Composition according to claim 2, characterized in that it contains:

- . Bisphenol A: 17% by weight
- . (2-ethylhexyl) glycidylether: 3% by weight
- 5 . Blocked isocyanate prepolymer 5% by weight
- . Polyaminoimidazoline: 11% by weight
- 10 . Neutral and non-reactive aromatic petroleum resins and/or modified hydroxylated petroleum resins (swelling solvent): 64% by weight

12. Composition according to claim 2, characterized in that it contains:

- . Bisphenol A: 9% by weight
- . Glycidylether: 2% by weight
- 5 . Blocked isocyanate prepolymer 2% by weight
- . Polyaminoimidazoline: 5% by weight
- . Neutral and non-reactive aromatic petroleum resins and/or modified hydroxylated petroleum resins (swelling solvent): 82% by weight
- 10

13. Composition according to claim 2, characterized in that it contains:

- . Butanediol + polyoxymethyleneglycol 58.1% by weight
- 5 . Prepolymer of MDI (diphenylmethane-4,4'-diisocyanate): 11.9% by weight
- . Diisobutyl phtalate (swelling solvent): 30% by weight
- 10

14. Composition according to claim 2, characterized in that it contains:

- . Urethane/acrylate polymer 35% by weight
- . MMA (methyl methacrylate) 60% by weight
- 5 . Diisobutyl phtalate (swelling solvent): 10% by weight

15. The use of a composition according to any one of the preceding claims to increase the shock absorbing coefficient of cables for permanent structures.

--16. Protective composition for the strands of sheathed cables for permanent structures, characterized in that it is constituted by a viscoelastic gel obtained by slow in situ polymerization, after injection at ambient temperature into the sheath surrounding the strands and in the presence of a swelling solvent, of monomeric or pre-polymeric reagents which are:

a) identical or different vinyl monomers, polymerizable by free radical technique, or

b) bifunctional or trifunctional compounds of two different types reacting with each other to give bidimensional or tridimensional polymers, or

c) mixtures of a) and b).--

--17. Composition according to claim 16, characterized in that the bi- or tri-functional compounds are polyols and polyisocyanates giving polyurethanes.--

--18. Composition according to claim 16, characterized in that the bi- or tri-functional compounds are bi- or tri-functional epoxy compounds and diamines or triamines giving cross-linked epoxy resins.--

--19. Composition according to claim 16, characterized in that it moreover contains an anti-corrosion agent.--

--20. Composition according to claim 19, characterized in that the anti-corrosion agent is an inorganic compound of the phosphate type or an organic compound of the polyaniline type.--

--21. Composition according to claim 19, characterized in that in the case of epoxy resins, the anti-corrosion agent is constituted by an excess of diamine or triamine such that the final composition has a $\text{pH} \geq 12$.--

--22. Composition according to claim 16, characterized in that the solvent is selected from benzoic acid esters, phthalic acid esters or saturated or unsaturated aliphatic acid esters having in the aliphatic chain at least 10 carbon atoms, aromatic or polycyclic hydrocarbons, terpenes and phenolic ethers if desired lightly polymerized.--

--23. Composition according to claim 16, characterized in that it contains 10 to 90% by weight of polymer and 90 to 10% by weight of swelling solvent, and preferably 15 to 55% by weight of polymer.--

--24. Composition according to claim 16, characterized in that it contains:

- . Bisphenol A: 30% by weight
- . Cresylglycidyl ether: 2% by weight
- . Blocked isocyanate prepolymer 20% by weight
- . Aliphatic amines + aliphatic
amine prepolymer: 11% by weight
- . Neutral and non-reactive aromatic
petroleum resins and/or modified
hydroxylated petroleum resins
(swelling solvent): 37% by weight--

--25. Composition according to claim 16,
characterized in that it contains:

- . Bisphenol A: 17% by weight
- . (2-ethylhexyl) glycidylether: 3% by weight
- . Blocked isocyanate prepolymer 5% by weight
- . Polyaminoimidazoline: 11% by weight
- . Neutral and non-reactive aromatic
petroleum resins and/or modified
hydroxylated petroleum resins
(swelling solvent): 64% by weight--

--26. Composition according to claim 16,
characterized in that it contains:

- . Bisphenol A: 9% by weight
- . Glycidylether: 2% by weight
- . Blocked isocyanate prepolymer 2% by weight
- . Polyaminoimidazoline: 5% by weight
- . Neutral and non-reactive aromatic
petroleum resins and/or modified
hydroxylated petroleum resins
(swelling solvent): 82% by weight--

--27. Composition according to claim 16, characterized in that it contains:

- . Butanediol + polyoxymethyleneglycol 58.1% by weight
- . Prepolymer of MDI
(diphenylmethane-4,4'-diisocyanate): 11.9% by weight
- . Diisobutyl phtalate
(swelling solvent): 30% by weight--

--28. Composition according to claim 16, characterized in that it contains:

- . Urethane/acrylate polymer 35% by weight
- . MMA (methyl methacrylate) 60% by weight
- . Diisobutyl phtalate
(swelling solvent): 10% by weight--

--29. The use of a composition according to claim 16, to increase the shock absorbing coefficient of cables for permanent structures.--

Respectfully submitted,

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By



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